AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An n-phase ozone generator comprising:

an ozone power supply for rectifying a voltage having a commercial frequency, ~~causing~~ an inverter ~~to convert~~for converting the rectified voltage to an AC voltage having a predetermined frequency, ~~causing~~ a transformer and a reactor ~~to convert~~for converting the AC voltage having the predetermined frequency to a high AC voltage, and outputting the ~~resulting~~ high AC voltage and a low voltage;

a discharge chamber having a high-voltage terminal for inputting the high AC voltage of the ozone power supply and a low-voltage terminal for inputting the low voltage; and

a plurality of multi-layer flat-plate ozone generator units that are stacked in the discharge chamber and ~~formulated by~~including, alternately ~~stacking~~stacked, a plurality of flat-plate high-voltage electrodes and low-voltage electrodes, wherein

the ozone power supply includes an n-phase inverter for converting a rectified voltage to an n-phase AC voltage having a predetermined frequency and outputting an n-phase AC voltage waveform~~;~~, n reactors and an n-phase transformer for converting an n-phase AC voltage, which is output from the n-phase inverter, to an n-phase high AC voltage~~;~~, n high-voltage terminals for outputting an n-phase high AC voltage~~;~~, and a low-voltage terminal for outputting a low voltage sharing a common potential with n high voltages~~;~~,

~~wherein~~ the plurality of multi-layer flat-plate ozone generator units are electrically divided into n pieces within the discharge chamber, high-voltage electrodes of an ozone generator unit ~~being handled as~~receiving the same high-voltage potentials~~;~~,

~~wherein,~~ from each ozone generator unit, n high-voltage electrode terminals and one low-voltage electrode terminal, which is common to all low-voltage electrodes of the ozone generator units, are ~~pulled out~~provided to connect the n high-voltage terminals ~~for an~~of the ozone power supply output to the n high-voltage electrode terminals of the ozone generator units~~;~~, and

~~wherein~~ the one low-voltage electrode terminal of the ozone generator units is connected to ~~a~~the low-voltage terminal of the ozone power supply output so that each ozone generator unit ~~invokes~~has an n-phase AC discharge ~~to generate~~in generating ozone.

2. (Currently Amended) The n-phase ozone generator according to claim 1, wherein the ozone power supply is positioned between the n-phase transformer and the plurality of ozone generator units, and includes ~~a~~the one low-voltage electrode terminal that is common

to all of the low-voltage electrodes of the ozone generator units and the n reactors that are connected in parallel with the n ozone generator units.

3. (Currently Amended) The n-phase ozone generator according to claim 1~~ or 2~~, wherein

the ozone power supply includes a time division device ~~that is capable of~~for equally dividing ~~the~~ time into 3 to n phases~~;~~, and ~~wherein~~,

when a designated phase count signal is entered into the time division device from the outside, the time division device issues an equally-time-divided signal to ~~an~~the inverter so that variable control can be exercised for an arbitrary phase while maintaining balance gradually for 3 to n phases.

4. (Currently Amended) The n-phase ozone generator according to claim 1~~, 2, or 3~~, wherein

the n reactors and the n-phase ~~transformers~~transformer of the ozone power supply ~~are formed when~~include a plurality of U- or L-shaped cores, around which a transformer coil or a reactor coil is wound, ~~are~~ closely attached to ~~the~~an opposite side around an I-shaped core having a polygonal cross section~~;~~, and

~~wherein~~ coils of the n-phase ~~transformers~~transformer or of the n reactors are Δ-connected or star-connected.

5. (Currently Amended) The n-phase ozone generator according to claim 4, wherein

~~the n reactors or n transformers of the ozone power supply are configured so that~~ the U- or L-shaped cores that are closely attached to the opposite side around the polygonal I-shaped core can be readily mounted and demounted~~;~~, and

~~wherein a~~the transformer that is configured as an n-phase transformer or reactor can be converted to a 3- to n-phase transformer or reactor.

6.(Currently Amended) The n-phase ozone generator according to claim 1,~~ 2, 3, 4, or 5, wherein~~including a fuse or a breaker ~~is provided~~ between the n high-voltage terminals of the ozone power supply and the n high-voltage electrode terminals of the ozone generator units.

7. (Currently Amended) The n-phase ozone generator according to claim 1, ~~2, 3, 4, or 6,~~wherein

~~the~~output sections of n high-voltage terminals of the ozone power supply ~~are provided with~~include a current detector~~;~~, and ~~wherein~~,

when a current flow in a certain phase exceeds a predetermined value, ~~the affected~~that phase is electrically ~~cut off~~isolated so that ~~an~~ n-1 ~~phase operation is performed~~phases continue to operate.

8. (Currently Amended) The n-phase ozone generator according to ~~claims~~claim 1, ~~2, 3, 4, 6, and 7~~wherein

output sections of n high-voltage terminals of the ozone power supply and a low-voltage potential output section ~~are provided with~~include a voltage detector~~;~~, and ~~wherein~~,

when a voltage applied to a low-voltage potential and ~~a certain phase~~one of the phases is below a predetermined value, ~~the affected~~that phase is electrically ~~cut off~~isolated so that ~~an~~ n-1 ~~phase operation is performed~~phases continue to operate.